

ANONP-E  
ANALYZER, DISTORTION

**1. GENERAL.** This procurement requires an analyzer capable of measuring distortion on ac waveforms.

**2. CLASSIFICATION.** Type II, Class 5, Style E, and Color R in accordance with MIL-T-28800 for shipboard applications.

**3. MEASUREMENT CHARACTERISTICS.** The equipment shall be capable of performing harmonic distortion measurements within the minimum parameters and accuracies specified below.

**3.1 Distortion measurement characteristics.**

**3.1.1 Fundamental frequency range.** 10 Hz to 100 kHz. Accuracy:  $\pm 5\%$  of setting.

**3.1.2 Distortion ranges.** Selectable ranges from 0.1% to 100%.

**3.1.3 Distortion accuracy.**  $\pm 12\%$  FS or less for all distortion ranges.

**3.1.4 Internal distortion.** 0.06% or less of total harmonic distortion.

**3.1.5 Automatic nulling.** Automatic nulling capability shall be provided.

**3.1.6 AM on RF carriers.** The instrument shall be capable of distortion measurements of the AM on RF carriers from 550 kHz to 1.6 MHz. The modulating signal shall be within the frequency range of 20 Hz to 20 kHz.

**3.1.7 Internal AM distortion.** 1% maximum of total harmonic distortion for 3 to 8 Vrms carriers modulated up to 30%.

**3.1.8 Maximum AM input.** 40V peak-to-peak.

**3.1.9 Filter.** A selectable high-pass filter shall be provided with at least 3 dB rejection at 400 Hz and at least 40 dB rejection at 60 Hz.

**3.2 Voltmeter measurement characteristics.**

**3.2.1 Voltage measurement range.** 1 mv to 200V.

**3.2.2 Voltmeter frequency range.** 10 Hz to 100 kHz.

**3.2.3 Voltmeter accuracy.**  $\pm 5\%$  fs.

**3.3 DC isolation.** The signal ground shall be isolated to  $\pm 30$  Vdc from the external chassis.

**4. GENERAL REQUIREMENTS.**

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**4.1 Power source.** MIL-T-28800 nominal power source requirements are invoked. Maximum power consumption: 4W.

**4.2 Weight.** 20 kg (44 lb) maximum.

**4.3 Lithium batteries.** Per MIL-T-28800, lithium batteries are prohibited without prior authorization. A request for approval for the use of lithium batteries, including those encapsulated in integrated circuits, shall be submitted to the procuring activity at the time of submission of proposals. Approval shall apply only to the specific model proposed.